OPERATING MANUAL

Interface

I/F 15

PARALLEL

SILVER REED

Preface

The I/F 15 is a parallel interface unit that makes it possible to connect the SILVER-REED EXD 15 Personal Multi-Printer with a personal computer or a word processor. The I/F 15 thus enables the EXD 15 to function both as an output printer and as a conventional, high-performance typewriter.

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1. Connecting the I/F 15

Identification of the Keyboard and Code:
Be sure to confirm that the indication label (Fig. 2) on the I/F 15 for the keyboard arrangement corresponds with the keyboard arrangement of your EXD 15.
Set the dip switches SW4, 5 and 6 as shown in page 6 according to your host computer. The factory setting of these switches is all "OFF" (ASCII Code).

Connecting Procedure:
1. Turn the power switch of the host unit off.
2. Insert the flat cable plug on the host unit into the I/F 15 connector.
3. Turn the power switch of the EXD 15 off.
4. Remove the connector port cover located on the right front side of the EXD 15 bottom cover as illustrated. (Fig. 1)
5. Insert the flat cable plug on the I/F 15 into the connector port (Fig. 2), making sure that the protection key (a) inserted side of the plug comes left.

Fig. 1

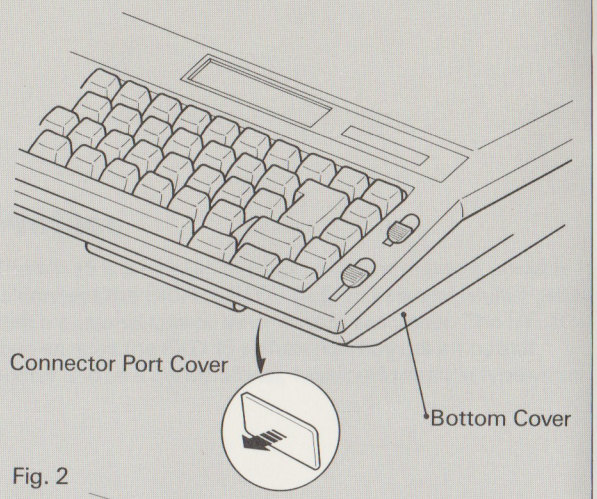
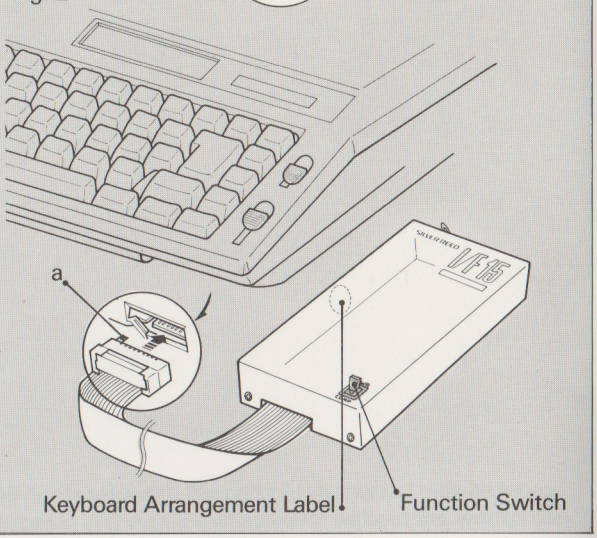


Fig. 2



2. Operating the function switch

The EXD 15 can operate either as a typewriter or as an output printer by means of the function switch on the I/F 15.

(A) COMP Mode

1. Set the selectors on the EXD 15 as follows:
   Return mode selector: Auto Return (AR)
   Line space selector: 1
   Print pattern selector: Normal (Top position)
2. Set the function switch to "COMP".
3. Turn the EXD 15 power switch on.
4. Following the initialization, the carrier stops at the left final position.
   The EXD 15 is now ready for use as an output printer.

NOTE:

- *The selectors in Step 1 cannot be set when the EXD 15 is in the COMP mode. If you move the function switch from "COMP" to "TPWR" when the EXD 15 is in the process of printing in the COMP mode, it print out the characters in the buffer, then comes to a halt. The EXD 15 can now be used as a typewriter.*

(B) TPWR Mode

1. Set the function switch to "TPWR".
2. Turn the EXD 15 power switch on.
3. After the initialization, the carrier stops at the left final position.
   The EXD 15 is now ready for use as a typewriter.

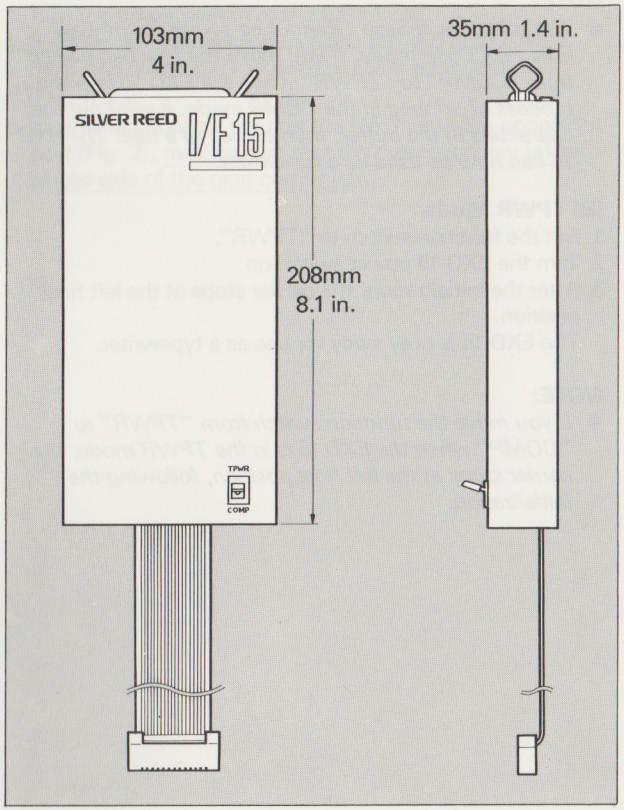
NOTE:

- *If you move the function switch from "TPWR" to "COMP" when the EXD 15 is in the TPWR mode, the carrier stops at the left final position, following the initialization.*

3. Specifications

(A) The EXD 15 specifications when the I/F 15 is connected up.

Printing system:	Serial thermal print
Maximum characters/line:	95 char. for 10 pitch 114 char. for 12 pitch
Interface:	Parallel (Centronics compatible)
Printing direction:	Unidirectional, left to right
Power consumption:	40W
I/F 15 Weight:	800g / 1.8 lb
External dimensions:	



(B) Interface

Input signals from host:

DATA 1-8 Input data DATA 1 (LSB) DATA 8 (MSB)

$\overline{\text{STROBE}}$ The strobe pulse for data reading

$\overline{\text{PRIME}}$ This low-pulse input sets the printer to the initial condition. (Cannot be reset during printing.)

Output signals from I/F 15:

$\overline{\text{ACK}}$ This output signal requests data when input is possible.

BUSY This level signal indicates whether data can be received or not. Signal input is possible at low level.

SELECT An output signal indicating whether the I/F 15 can receive a signal or not. Normally high at power on.

(C) Connector Specifications

1. Connector on the I/F 15 side:
   36-pin connector (receptacle) — 57LE-40360-27CO (DDK) or equivalent.
2. Cable (option):
   1m-long cable available.
   Connector:
   36-pin connector (plug) — 57F-30360 (DDK) or equivalent.

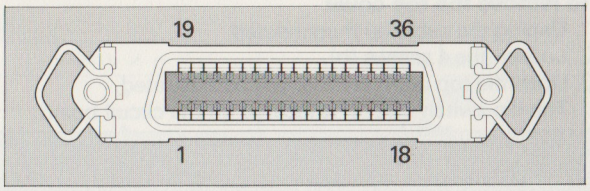
3. Specifications:

Pin	Signal	IN/OUT
1	$\overline{\text{DATA STROBE}}$	IN
2	DATA 1	IN
3	DATA 2	IN
4	DATA 3	IN
5	DATA 4	IN
6	DATA 5	IN
7	DATA 6	IN
8	DATA 7	IN
9	DATA 8	IN
10	$\overline{\text{ACK}}$	OUT
11	BUSY	OUT
12	LOGIC GND	—
13	SELECT	OUT
14	—	—
15	—	—
16	LOGIC GND	—
17	CHASSIS GND	—
18	+5V	—
19	TWISTED PAIR GND	($\overline{\text{DATA STROBE}}$)
20	TWISTED PAIR GND	(DATA 1)
21	TWISTED PAIR GND	(DATA 2)
22	TWISTED PAIR GND	(DATA 3)
23	TWISTED PAIR GND	(DATA 4)
24	TWISTED PAIR GND	(DATA 5)
25	TWISTED PAIR GND	(DATA 6)
26	TWISTED PAIR GND	(DATA 7)
27	TWISTED PAIR GND	(DATA 8)
28	TWISTED PAIR GND	($\overline{\text{ACK}}$)
29	TWISTED PAIR GND	(BUSY)
30	TWISTED PAIR GND	($\overline{\text{PRIME}}$)
31	$\overline{\text{PRIME}}$	IN
32	Pull-up +5V by 3.3K resistance	—
33	—	—
34	—	—
35	Pull-up +5V by 3.3K resistance	—
36	—	—

NOTES:

- *"IN" denotes inputs to the I/F 15; "OUT" denotes outputs from the I/F 15.*
- *Do not use "+5V" of the pin 18.*

Pin layout:

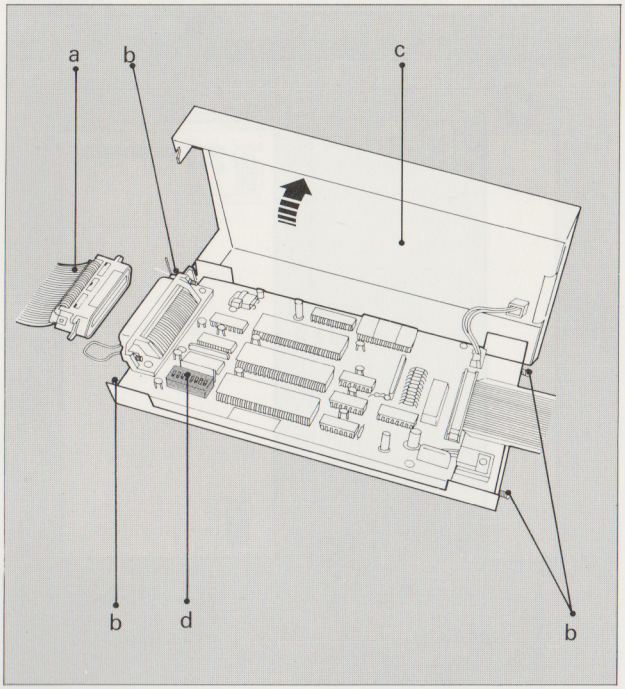


(D) Dip Switch for Selecting Functions

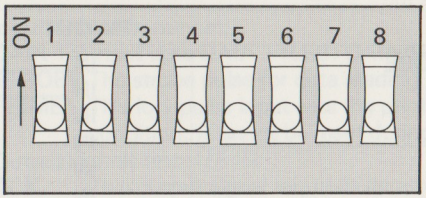
The keyboard arrangements, codes for the host computer, line feed and print pitches can be selected by means of the dip switches of the circuit board located inside the I/F 15.

To remove the top cover

1. Unplug the cable (a) if connected.
2. Loosen the 4 screws (b).
3. Open the top cover (c) carefully as illustrated.
   The dip switch unit (d) is located on the circuit board.



Dip Switch (SW1-8):



1. Keyboard arrangements

Be sure to confirm that the indication label on the I/F 15 for the keyboard arrangement corresponds with the keyboard arrangement of your EXD 15.

SW1	SW2	Keyboard Arrangements
OFF	OFF	901 U.S.A./AUSTRALIA
ON	OFF	902 GERMANY/AUSTRIA
OFF	ON	903 ENGLAND

2. Codes

Set the dip switches SW4, 5 and 6 as follows according to your host computer.

SW4	SW5	SW6	Codes
OFF	OFF	OFF	ASCII
ON	OFF	OFF	U.S.A./AUSTRALIA
OFF	ON	OFF	GERMANY/AUSTRIA
ON	ON	OFF	ENGLAND
OFF	OFF	ON	JAPAN-ENGLISH
ON	OFF	ON	SWISS-GERMAN
OFF	ON	ON	NORWAY
ON	ON	ON	SWEDEN/FINLAND

NOTE:

- *The factory setting of SW4, 5 and 6 are all "OFF".*

3. Line feed

The SW 7 controls the line feed when printing.

SW 7	**ON**	Upon CR input, executes 1 line feed after printing.
	OFF	Prints upon CR input; upon CR + LF input, executes 1 line feed after printing.

NOTE:

- *The factory setting of the SW7 is "OFF".*

4. Print pitch

The SW3 and SW8 control the print pitch of the EXD 15.

SW3	SW8	Print Pitch
OFF	OFF	10 Pitch
ON	ON	12 Pitch

NOTES:

- *The print pitch cannot be set by the print pitch selector on the EXD 15.*
- *The factory setting of the SW8 is "OFF".*

(E) Silent Symbols

Six silent symbols are available on the EXD 15 and can be combined with characters as shown, forming particular characters. The ESC Code on the host unit side should be used to combine these symbols and characters.

^ ` ´ ¨	AEIOU aeiou
~	ANO ano
¸	CScs

In the programming on the host unit, "ESC+A" commands to combine the silent symbols and characters, while "ESC+B" cancels the command. To form a combined character, input a symbol first and then a required character.

(Example) Programming in BASIC:

```
10 LPRINT CHR$ (27); "A"; — Command to combine
                            characters
20 LPRINT "A^O"          — Output AÔ
30 LPRINT CHR$ (27); "B"; — Cancel the command
```

(F) Code Tables

In the COMP mode, only the characters and symbols shown in the code table can be printed out.

ASCII

				b8	0	0	0	0	0	0	0	0
				b7	0	0	0	0	1	1	1	1
				b6	0	0	1	1	0	0	1	1
				b5	0	1	0	1	0	1	0	1
b4	b3	b2	b1		0	1	2	3	4	5	6	7
0	0	0	0	0			SP	0	@	P	`	p
0	0	0	1	1			!	1	A	Q	a	q
0	0	1	0	2			"	2	B	R	b	r
0	0	1	1	3			#	3	C	S	c	s
0	1	0	0	4			$	4	D	T	d	t
0	1	0	1	5			%	5	E	U	e	u
0	1	1	0	6			&	6	F	V	f	v
0	1	1	1	7			'	7	G	W	g	w
1	0	0	0	8			(	8	H	X	h	x
1	0	0	1	9			)	9	I	Y	i	y
1	0	1	0	A	LF		*	:	J	Z	j	z
1	0	1	1	B		ESC	+	;	K	[	k	{
1	1	0	0	C			,	<	L	\	l	|
1	1	0	1	D	CR		–	=	M	]	m	}
1	1	1	0	E			.	>	N	^	n	~
1	1	1	1	F			/	?	O	_	o	

U.S.A./AUSTRALIA

				b8	0	0	0	0	0	0	0	0
				b7	0	0	0	0	1	1	1	1
				b6	0	0	1	1	0	0	1	1
				b5	0	1	0	1	0	1	0	1
b4	b3	b2	b1		0	1	2	3	4	5	6	7
0	0	0	0	0			SP	0	@	P	§	p
0	0	0	1	1			!	1	A	Q	a	q
0	0	1	0	2			"	2	B	R	b	r
0	0	1	1	3			#	3	C	S	c	s
0	1	0	0	4			$	4	D	T	d	t
0	1	0	1	5			%	5	E	U	e	u
0	1	1	0	6			&	6	F	V	f	v
0	1	1	1	7			'	7	G	W	g	w
1	0	0	0	8			(	8	H	X	h	x
1	0	0	1	9			)	9	I	Y	i	y
1	0	1	0	A	LF		*	:	J	Z	j	z
1	0	1	1	B		ESC	+	;	K	[	k	¢
1	1	0	0	C			,	$^1/_2$	L	^{2}	l	|
1	1	0	1	D	CR		–	=	M	]	m	°
1	1	1	0	E			.	$^1/_4$	N	^{3}	n	±
1	1	1	1	F			/	?	O	_	o	

GERMANY/AUSTRIA

				b8	0	0	0	0	0	0	0	0
				b7	0	0	0	0	1	1	1	1
				b6	0	0	1	1	0	0	1	1
				b5	0	1	0	1	0	1	0	1
b4	b3	b2	b1		0	1	2	3	4	5	6	7
0	0	0	0	0			SP	0	§	P	|	p
0	0	0	1	1			!	1	A	Q	a	q
0	0	1	0	2			"	2	B	R	b	r
0	0	1	1	3			#	3	C	S	c	s
0	1	0	0	4			$	4	D	T	d	t
0	1	0	1	5			%	5	E	U	e	u
0	1	1	0	6			&	6	F	V	f	v
0	1	1	1	7			'	7	G	W	g	w
1	0	0	0	8			(	8	H	X	h	x
1	0	0	1	9			)	9	I	Y	i	y
1	0	1	0	A	LF		*	:	J	Z	j	z
1	0	1	1	B		ESC	+	;	K	Ä	k	ä
1	1	0	0	C			,	`	L	Ö	l	ö
1	1	0	1	D	CR		–	=	M	Ü	m	ü
1	1	1	0	E			.	´	N	²	n	ß
1	1	1	1	F			/	?	O	__	o	

ENGLAND

				b8	0	0	0	0	0	0	0	0
				b7	0	0	0	0	1	1	1	1
				b6	0	0	1	1	0	0	1	1
				b5	0	1	0	1	0	1	0	1
b4	b3	b2	b1		0	1	2	3	4	5	6	7
0	0	0	0	0			SP	0	@	P	½	p
0	0	0	1	1			!	1	A	Q	a	q
0	0	1	0	2			"	2	B	R	b	r
0	0	1	1	3			£	3	C	S	c	s
0	1	0	0	4			$	4	D	T	d	t
0	1	0	1	5			%	5	E	U	e	u
0	1	1	0	6			&	6	F	V	f	v
0	1	1	1	7			'	7	G	W	g	w
1	0	0	0	8			(	8	H	X	h	x
1	0	0	1	9			)	9	I	Y	i	y
1	0	1	0	A	LF		*	:	J	Z	j	z
1	0	1	1	B		ESC	+	;	K	[	k	µ
1	1	0	0	C			,	<	L	#	l	|
1	1	0	1	D	CR		–	=	M	]	m	°
1	1	1	0	E			.	>	N	²	n	±
1	1	1	1	F			/	?	O	__	o	

JAPAN-ENGLISH

				b8	0	0	0	0	0	0	0	0
				b7	0	0	0	0	1	1	1	1
				b6	0	0	1	1	0	0	1	1
				b5	0	1	0	1	0	1	0	1
b4	b3	b2	b1		0	1	2	3	4	5	6	7
0	0	0	0	0			SP	0	@	P	ç	p
0	0	0	1	1			!	1	A	Q	a	q
0	0	1	0	2			"	2	B	R	b	r
0	0	1	1	3			#	3	C	S	c	s
0	1	0	0	4			$	4	D	T	d	t
0	1	0	1	5			%	5	E	U	e	u
0	1	1	0	6			&	6	F	V	f	v
0	1	1	1	7			'	7	G	W	g	w
1	0	0	0	8			(	8	H	X	h	x
1	0	0	1	9			)	9	I	Y	i	y
1	0	1	0	A	LF		*	:	J	Z	j	z
1	0	1	1	B		ESC	+	;	K	£	k	¨
1	1	0	0	C			,	`	L	¥	l	|
1	1	0	1	D	CR		–	=	M	¨	m	°
1	1	1	0	E			.	´	N	^	n	~
1	1	1	1	F			/	?	O	_	o	

SWISS-GERMAN

				b8	0	0	0	0	0	0	0	0
				b7	0	0	0	0	1	1	1	1
				b6	0	0	1	1	0	0	1	1
				b5	0	1	0	1	0	1	0	1
b4	b3	b2	b1		0	1	2	3	4	5	6	7
0	0	0	0	0			SP	0	§	P	ç	p
0	0	0	1	1			¨	1	A	Q	a	q
0	0	1	0	2			"	2	B	R	b	r
0	0	1	1	3			£	3	C	S	c	s
0	1	0	0	4			$	4	D	T	d	t
0	1	0	1	5			%	5	E	U	e	u
0	1	1	0	6			&	6	F	V	f	v
0	1	1	1	7			'	7	G	W	g	w
1	0	0	0	8			(	8	H	X	h	x
1	0	0	1	9			)	9	I	Y	i	y
1	0	1	0	A	LF		*	:	J	Z	j	z
1	0	1	1	B		ESC	+	;	K	à	k	ä
1	1	0	0	C			,	`	L	è	l	ö
1	1	0	1	D	CR		–	=	M	é	m	ü
1	1	1	0	E			.	´	N	^	n	|
1	1	1	1	F			/	?	O	_	o	

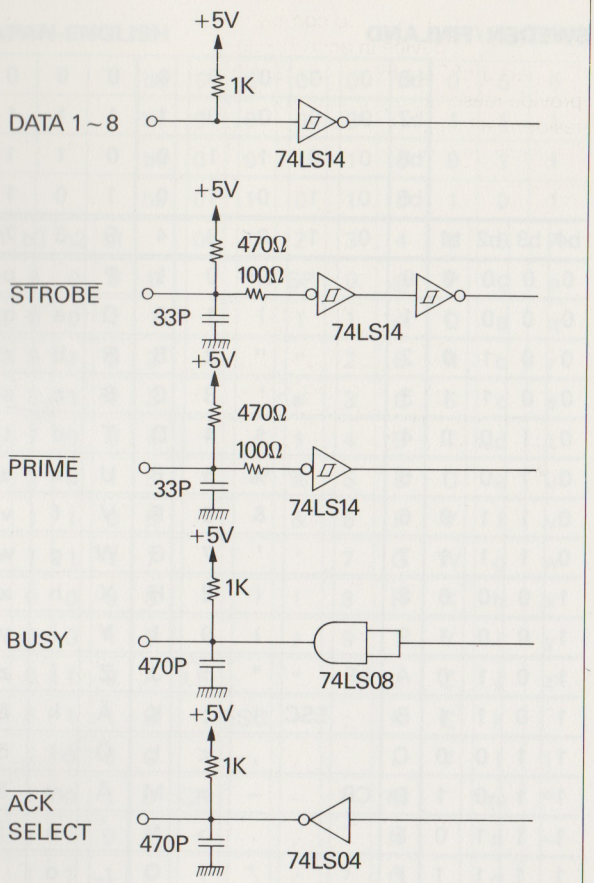
NORWAY

				b8	0	0	0	0	0	0	0	0
				b7	0	0	0	0	1	1	1	1
				b6	0	0	1	1	0	0	1	1
				b5	0	1	0	1	0	1	0	1
b4	b3	b2	b1		0	1	2	3	4	5	6	7
0	0	0	0	0			SP	0	§	P	¨	p
0	0	0	1	1			!	1	A	Q	a	q
0	0	1	0	2			"	2	B	R	b	r
0	0	1	1	3			£	3	C	S	c	s
0	1	0	0	4			$	4	D	T	d	t
0	1	0	1	5			%	5	E	U	e	u
0	1	1	0	6			&	6	F	V	f	v
0	1	1	1	7			'	7	G	W	g	w
1	0	0	0	8			(	8	H	X	h	x
1	0	0	1	9			)	9	I	Y	i	y
1	0	1	0	A	LF		*	:	J	Z	j	z
1	0	1	1	B		ESC	+	;	K	Æ	k	æ
1	1	0	0	C			,	<	L	Ø	l	ø
1	1	0	1	D	CR		–	=	M	Å	m	å
1	1	1	0	E			.	>	N	^	n	|
1	1	1	1	F			/	?	O	_	o	

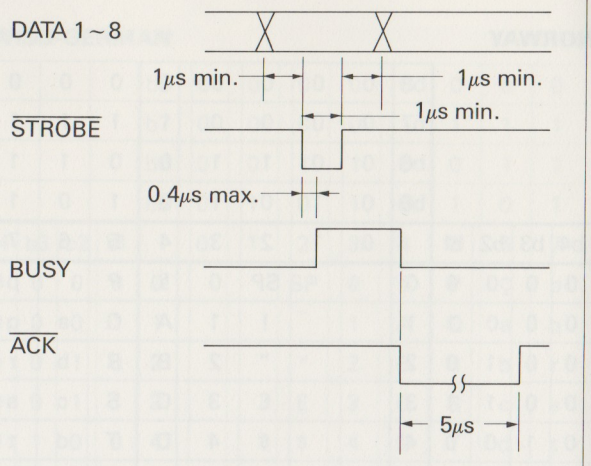
SWEDEN/FINLAND

				b8	0	0	0	0	0	0	0	0
				b7	0	0	0	0	1	1	1	1
				b6	0	0	1	1	0	0	1	1
				b5	0	1	0	1	0	1	0	1
b4	b3	b2	b1		0	1	2	3	4	5	6	7
0	0	0	0	0			SP	0	§	P	`	p
0	0	0	1	1			!	1	A	Q	a	q
0	0	1	0	2			"	2	B	R	b	r
0	0	1	1	3			'	3	C	S	c	s
0	1	0	0	4			$	4	D	T	d	t
0	1	0	1	5			%	5	E	U	e	u
0	1	1	0	6			&	6	F	V	f	v
0	1	1	1	7			'	7	G	W	g	w
1	0	0	0	8			(	8	H	X	h	x
1	0	0	1	9			)	9	I	Y	i	y
1	0	1	0	A	LF		*	:	J	Z	j	z
1	0	1	1	B		ESC	+	;	K	Ä	k	ä
1	1	0	0	C			,	<	L	Ö	l	ö
1	1	0	1	D	CR		–	=	M	Å	m	å
1	1	1	0	E			.	>	N	^	n	|
1	1	1	1	F			/	?	O	_	o	

(G) Input/Output Circuits



(H) Timing Chart



FCC Notice (U.S.A. only)

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna
- Relocate the equipment with respect to the receiver
- Move the equipment away from the receiver.
- Plug the equipment into a different outlet so that equipment and receiver are on different branch circuits.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet prepared by the Federal Communication helpful:

"How to Identify and Resolve Radio TV Interference Problems"

This booklet is available from the U.S. Government Printing Office, Washington, DC 20402. Stock No. 004-000-00345-4.

1
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